

REMARKS

Claims 1 to 20 were pending when last examined. Applicant has amended claims 4, 10, 15, 16, 18, and 20. Claims 1 to 20 remain pending.

Claim Suggestion

The Examiner suggested amending claim 9 to remove “the” before “another color matching parameter” in the phrase “initializing the another color matching parameter and a minimum color matching error ...” Applicant has not amended claim 9 as suggested by the Examiner since “another color matching parameter” was previously recited in claim 7. As claim 9 depends indirectly from claim 7, the antecedent basis “the” for “another color matching parameter” is proper in claim 9.

§ 1.83(a) Rejections

The Examiner rejected Figs. 3 and 8 to 10 under 37 C.F.R. § 1.83(a) as they fail to show appropriate contrast and sufficient details to describe the claimed invention as laid out in the specification. Applicant notes that the present application was filed with a Petition to Request Acceptance of Color Drawings Pursuant to 37 C.F.R. 1.84(a)(2) along with three sets of color drawings that obviates this rejection. From PAIR, Applicant sees that the Petition has been saved as part of the Transmittal of New Application. Applicant respectfully requests the Examiner to review and grant the Petition in due course. The Petition and the color drawings obviate the § 1.83(a) rejection.

§ 102 Rejections

The Examiner rejected claims 1 to 5, 16 and 17 under 35 U.S.C. § 102(e) as being unpatentable over Masaki (U.S. Patent No. 7,215,812). Addressing claim 1, the Examiner stated:

Regarding claim 1, Masaki discloses a method for color matching a first image and a second image, wherein a first region of the first image and a second region of the second image overlap (“An image processing method for carrying out predetermined correction processing with respect to one or more items regarding the quality of color images...” at abstract), the method comprising: generating a first histogram of the first region; generating a second histogram of the second region (Refer to Figure 5);

determining corresponding pixel values from the first and the second histograms (Refer to Figure 4, numeral #51);

determining at least one parameter of an optoelectronic conversion function (OECF) that best matches the corresponding pixel values (Refer to Figure 4, numeral #41);

and color matching the second image to the first image by applying the OECF with the at least one parameter to the second image (Refer to Figure 4, numerals #53-#59).

August 21, 2007 Office Action, pp. 4 and 5. Applicant respectfully traverses.

Claim 1 recites steps for color matching first and second images where the first image has a first region that overlaps a second region of the second image. The steps include generating a first histogram for the first region, generating a second histogram for the second region, determining corresponding pixels from the first and the second histograms, determining at least one parameter of an optoelectronic conversion function (OECF) that best matches the corresponding pixels, and applying the OECF to the second image.

Fig. 4 and the supporting text of Masaki cited by the Examiner disclose steps for judging if an image is a sunset image (i.e., an image captured at sunset). The steps include converting RGB values of the pixels in the image to HSL values, generating a histogram for the H values of the pixels in the image, selecting pixels in the histogram with H values in the range of red to yellow color, calculating product $P (=H \cdot S)$ and product $Q (=H \cdot L)$ values of the selected pixels, generate a histogram for product P values and a histogram for product Q values, calculating a variance value S_p of the P histogram and a variance value S_q of the Q histogram, and comparing variance values S_p and S_q to respective thresholds. When either variance value S_p or S_q is less than their thresholds, then the image is not a sunset image.

As the Examiner can see, Masaki does not disclose generating histograms for overlapping regions from two different images. Instead, Masaki generates histograms of H values, P product values, and Q product values from a single image. Masaki also does not determine corresponding pixels from the two histograms. Instead, Masaki compares variance S_p of the P product histogram and variance S_q of the Q product histogram to their respective thresholds. Masaki further does not determine at least one parameter of an optoelectronic conversion function (OECF) that best matches the corresponding pixels and apply the OECF to one of the images. Instead, Masaki discloses converting between RGB and HSL color spaces, and comparing variances S_p of the P histogram and variance S_q of the Q histogram to their respective thresholds. For these reasons, claim 1 is patentable over Masaki.

The Examiner rejected claim 16 for similar reasons as claim 1. Claim 16 recites similar limitations as claim 1 and is therefore patentable over Masaki for at least the same reasons as claim 1.

Claims 2 to 5 and 17 depend directly or indirectly from claims 1 and 16, and are patentable for at least the same reasons as claims 1 and 16.

§ 103 Rejections

Claims 6 to 8, 10 to 13, 15, 18 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Masaki in combination with the prior art in the Description of Related Art in the present application ("PAA").

Claims 6 to 8, 10 to 13, and 15 depend directly or indirectly from claim 1, and claims 18 and 20 depend directly or indirectly from claim 16. For at least the same reason set forth above in the §102 rejections, claims 1 and 16 are patentable over the combination of Masaki and the PAA.

Allowable Subject Matter

The Examiner indicated that claims 9, 14 and 19 are allowable if rewritten in independent form including all of the limitations of their base claims and any intervening claims. Applicant has not amended these claims to independent form because Applicant believes that their base claims are patentable over the cited references.

Summary

In summary, claims 1 to 20 were pending in the above-identified application when last examined. Applicant has amended claims 4, 10, 15, 16, 18, and 20. For the above reasons, Applicant respectfully requests the Examiner to withdraw the claim rejections and allow claims 1 to 20. Should the Examiner have any questions, please call the undersigned at (408) 382-0480.

Respectfully submitted,

/David C Hsia/

David C. Hsia
Attorney for Applicant(s)
Reg. No. 46,235

Patent Law Group LLP
2635 North First St., Ste. 223
San Jose, California 95134
408-382-0480x206